rior leads) and all these patients underwent an urgent coronary angiography. In 13 patients (65%), a significant coronary stenosis was observed: ST elevation was observed in case of critical coronary stenosis in 6 patients and in case of chronic coronary occlusion in 7 patients. Finally, 7 patients (35% of patients presenting with ST elevation during dobutamine stress echocardiography; 6 men, mean age: 67±11 years) had no significant coronary stenosis. The prevalence of coronary artery spasm during dobutamine stress echocardiography was 0.3%. Coronary artery spasm during coronary angiography was induced with methergin testing or dobutamine perfusion.

Conclusion: Coronary artery spasm during dobutamine stress echocardiography is rare but may occur. Its prevalence is estimated to 0.3%. Physicians should aware of its presence in dobutamine stress echocardiography.

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Diagnostic value of cardiac magnetic resonance in patients presenting with chest pain, troponin elevation and unobstructed coronary arteries

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Background: Among patients presenting with chest pain, troponin elevation and non obstructed coronary arteries, diagnosis is important for prognostic stratification and treatment. However, many conditions can lead to this presentation. We sought to assess the diagnostic value of cardiac magnetic resonance (CMR) in this setting.

Methods: Retrospective analysis of prospective collected data from CMR performed in consecutive patients referred for chest pain, troponin elevation and unobstructed coronary arteries on coronary angiogram. All patients underwent CMR study with cine imaging, T2 weighted imaging for detection of inflammation edema and delayed contrast enhancement (DCE) imaging for detection of infarction/fibrosis.

Results: From January 2009 to December 2010, 56 patients were included: 48% were women, mean age was 53±17 years, 32% were smokers, 7% had diabetes mellitus, 27% had hypertension and 32% had hypercholesterolemia. Mean troponin – I level was 6.36±7.97 ng/mL (range: 0.11-40). The median interval from presentation of chest pain to CMR was 7 days. CMR lead to a diagnosis in 38 patients (67.5%): In 21 patients (37.5%), the final diagnosis was acute myocarditis (subepicardial and/or mid-wall DCE); in 9 patients (16%), the final diagnosis was acute myocardial infarction (subendocardial and/or transmural DCE); in 8 patients (14%), stress cardiomyopathy was established in the absence of DCE and normalization of ventricular function. In 18 (32.5%) patients, the diagnosis was indeterminate: 16 patients had normal CMR and 2 patients had no DCE but wall motion abnormalities.

Conclusion: Among patients with chest pain, troponin elevation and non obstructed coronary arteries, CMR is a helpful non invasive exam to discriminate acute coronary syndrome from acute myocarditis or stress cardiomyopathy.

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Late right ventricular dysfunction in inferior myocardial infarction with right ventricular involvement

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Purpose: Recovery of right ventricular (RV) function has been reported after RV infarction. The aim of this study is to asses RV function one year after an inferior myocardial infarction (MI) with RV involvement.

Method: Forty-two patients with previous inferior MI have been enrolled. Twenty patients (group I) had inferior MI with RV involvement (ST elevation >0.1 mV in V4R with culprit lesion on the right coronary artery proximal to RV branch) whereas 22 patients (group II) had inferior MI without RV involvement. All patients underwent primary percutaneous coronary intervention (PCI). The 2 groups had similar mean ages and sex ratio. All included subjects had no evidence of valvular or chronic pulmonary diseases. All patients were recalled one year after MI for echocardiographic assessment.

Results: We observed no difference in left ventricular ejection fraction between the 2 groups (49±4% vs. 50±3%, NS). Right ventricular diastolic diameter, RV ejection fraction, conventional Tei index, tricuspid annular plane systolic excursion and pulmonary arterial pressures were similar in both groups. However, the tricuspid annulus systolic velocities obtained at the basal RV free wall by tissue Doppler imaging (TDI) were significantly decreased in group I (9.1± 1.7 cm/s vs. 14.1±1.9 cm/s, $p<0.01$) reflecting subclinical RV systolic dysfunction. Among group I patients, impaired RV systolic function at TDI is significantly pronounced in the subgroup with delayed primary PCI (>6 hours).

Conclusion: Our study shows that RV subclinical dysfunction persists late after RV infarction and apparent clinical RV recovery. Tissue Doppler imaging is the most powerful technique to monitor disease process.

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Coronary plaque burden in asymptomatic patients with metabolic syndrome

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Background: The majority of patients with metabolic syndrome (MS) have a Framingham high risk score but there are a lot of patients with intermediate risk Framingham score. Recently it was demonstrated that MDCT can be a valuable prognostic tool in asymptomatic patients compared to traditional risk factors score.

Objectives: The aim of this study is to determine the amount of coronary calcium and distribution of the plaques in untreated metabolic syndrome patients with Framingham high risk score compared to a group of metabolic syndrome patients with intermediate Framingham risk score using 64-multislice detector computed tomography (MDCT).

Methods: We prospectively included 53 untreated asymptomatic patients with high risk score (HRS) MS (male 69%, 54±7 years, mean Framingham score 24) and 39 untreated asymptomatic patients with intermediate risk score (IRS) MS (male 59%, 56±6 years, mean Framingham score 15). All patients underwent both MDCT calcium scoring and coronary angiography. Agatston score and coronary plaque burden were calculated.

Results: There was no difference regarding calcium score and coronary plaque burden in patients with HRS-MS compared to patients with IRS-MS (Agatston= 47 vs 38). Moreover the prevalence of significant obstructive CAD was similar in both groups (22 % vs 21%).

Conclusions: The patients with HRS-MS have the same anatomical coronary profile like patients with IRS-MS highlighting the problem of limited power of imaging risk score versus low predictability of the traditional risk prediction models in this population. The patients with MS represent a heterogenic group where the limit between high and intermediate risk score is flu.